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Arash Massoudi

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EXAMINER

CHEN, QING

ART UNIT

PAPER NUMBER

2191

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/711,322	Applicant(s) MASSOUDI, ARASH	
	Examiner Qing Chen	Art Unit 2191	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20080430</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This is the initial Office action based on the application filed on September 10, 2004.
2. **Claims 1-15** are pending.

Specification

3. The disclosure is objected to because it contains a typographical error: “fai,l” should read -- fail -- on page 14, paragraph 49.

Appropriate correction is required.

4. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code on page 9, paragraph 38. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

Claim Objections

5. **Claims 8 and 10-14** are objected to because of the following informalities:
 - **Claims 8 and 10-13** recite the category of invention “[a]/[t]he system.” Applicant is advised to change this category of invention to read “[a]n extensible system” for the purpose of providing it with proper explicit antecedent basis or keeping the claim language consistent throughout the claims.
 - **Claim 13** contains a typographical error: The comma (,) after the word “defining” should be deleted.
 - **Claim 14** contains the following typographical errors:

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- “A method” should read -- An extensible system --.
- “based on it” should presumably read -- based on its --.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. **Claims 1-15** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 1, 7, 9, and 15 do not recite any interrelating essential elements of the invention as defined by the Applicant in the specification. A claim which omits matter disclosed to be essential to the invention as described in the specification or in other statements of record may be rejected under 35 U.S.C. 112, first paragraph, as not enabling. *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). See MPEP §§ 2172.01 and 2164.08(c). Such essential matter may include missing elements, steps or necessary structural cooperative relationships of elements described by the Applicant as necessary to practice the invention.

Claims 2-6 depend on Claim 1 and, therefore, suffer the same deficiency as Claim 1.

Claim 8 depends on Claim 7 and, therefore, suffers the same deficiency as Claim 7.

Claims 10-14 depend on Claim 9 and, therefore, suffer the same deficiency as Claim 9.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. **Claims 1-15** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is directed to a method of defining recovery and transactional behavior for software. The claim fails to point out and distinctly claim the invention because it does not recite any steps associated with the method and set forth any interrelating essential elements of the invention as defined by the Applicant in the specification. See MPEP § 2172.01.

Claims 2-6 depend on Claim 1 and, therefore, suffer the same deficiency as Claim 1.

Claim 2 recites the limitation “a method of recovery and transactional behavior.” The claim is rendered indefinite because there is no active verb associated with the method step. In the interest of compact prosecution, the Examiner subsequently interprets this limitation as

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reading “a step of defining recovery and transactional behavior” for the purpose of further examination.

Claims 2-5 recite the limitation “a method of [...]” The claims are rendered indefinite because a method can only comprise additional steps, not methods. In the interest of compact prosecution, the Examiner subsequently interprets this limitation as reading “a step of [...]” for the purpose of further examination.

Claim 3 recites the limitations “the composite model/program” and “that composite definition.” There are insufficient antecedent bases for these limitations in the claim. In the interest of compact prosecution, the Examiner subsequently interprets these limitations as reading “a composite model/program” and “a composite definition,” respectively, for the purpose of further examination.

Claim 4 recites the limitation “the service.” There is insufficient antecedent basis for this limitation in the claim. In the interest of compact prosecution, the Examiner subsequently interprets this limitation as reading “the service interface” for the purpose of further examination.

Claim 5 recites the limitation “the visual presentation.” There is insufficient antecedent basis for this limitation in the claim. In the interest of compact prosecution, the Examiner subsequently interprets this limitation as reading “a visual presentation” for the purpose of further examination.

Claim 6 depends on Claim 5 and, therefore, suffers the same deficiency as Claim 5.

Claim 6 recites the limitations “the built-in rollback behavior” and “the rollback/compensation port.” There are insufficient antecedent bases for these limitations in the claim. In the interest of compact prosecution, the Examiner subsequently interprets these limitations as reading “a built-in rollback behavior” and “a rollback/compensation port,” respectively, for the purpose of further examination.

Claims 7 and 9 are directed to extensible systems. The claims fail to point out and distinctly claim the invention because they do not recite any structural cooperative relationships of elements associated with the systems and set forth any interrelating essential elements of the invention as defined by the Applicant in the specification. See MPEP § 2172.01.

Claim 8 depends on Claim 7 and, therefore, suffers the same deficiency as Claim 7.

Claims 10-14 depend on Claim 9 and, therefore, suffer the same deficiency as Claim 9.

Claim 8 recites the limitation “e.g. update, query, delete, and add.” The phrase “e.g.” renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d). In the interest of compact prosecution, the Examiner subsequently does not give any patentable weight to this limitation for the purpose of further examination.

Claim 10 recites the limitations “the data” and “the inter-process shared memory structures.” There are insufficient antecedent bases for these limitations in the claim. In the interest of compact prosecution, the Examiner subsequently interprets these limitations as reading “data” and “an inter-process shared memory structures,” respectively, for the purpose of further examination.

Claim 10 recites the limitation “a method of built-in transactional behavior.” The claim is rendered indefinite because there is no active verb associated with the method step. In the interest of compact prosecution, the Examiner subsequently interprets this limitation as reading “a method of defining built-in transactional behavior” for the purpose of further examination.

Claims 10, 11, 13, and 14 recite the limitation “a method of [...]” The claims are rendered indefinite because the claims are directed to an extensible system and thus, cannot comprise method steps. A system can only be defined by its physical components/structures. In the interest of compact prosecution, the Examiner subsequently does not give any patentable weight to this limitation for the purpose of further examination.

Claim 12 recites the limitation “the semantic based transactional behavior.” There is insufficient antecedent basis for this limitation in the claim. In the interest of compact prosecution, the Examiner subsequently interprets this limitation as reading “a semantic based transactional behavior” for the purpose of further examination.

Claim 14 recites the limitation “the declared transactional behavior.” There is insufficient antecedent basis for this limitation in the claim. In the interest of compact prosecution, the Examiner subsequently interprets this limitation as reading “a declared transactional behavior” for the purpose of further examination.

10. **Claim 15** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite in that it fails to point out what is included or excluded by the claim language. This claim is an omnibus type claim. See MPEP § 2173.05(r). Consequently, Claim 15 will not be subjected to a prior art rejection since the Examiner is unable to ascertain the metes and bounds of the claim.

Claim Rejections - 35 USC § 101

11. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

12. **Claims 1-15** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-6 are directed to a method. However, the recited steps of the method are held to be non-statutory subject matter because the recited steps of the method are (1) not tied to another statutory class (such as a particular apparatus) or (2) not transforming the underlying subject matter (such as an article or materials) to a different state or thing. Applicant is advised to amend

the claims to recite “[a] computer-implemented method” in order to overcome the § 101 rejections.

Claims 7-14 are directed to extensible systems. However, the recited components of the systems appear to lack the necessary physical components (hardware) to constitute a machine or manufacture under § 101. Therefore, these claim limitations can be reasonably interpreted as computer program modules—software *per se*. The claims are directed to functional descriptive material *per se*, and hence non-statutory.

The claims constitute computer programs representing computer listings *per se*. Such descriptions or expressions of the programs are not physical “things.” They are neither computer components nor statutory processes, as they are not “acts” being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer, which permit the computer program’s functionality to be realized. In contrast, a claimed computer-readable medium encoded with a computer program is a computer element, which defines structural and functional interrelationships between the computer program and the rest of the computer, that permits the computer program’s functionality to be realized, and is thus statutory. See *Lowry*, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Claim 15 is directed to all other methods and systems explicitly or implicitly disclosed in the Applicant’s disclosure. The claim is attempting to preempt a § 101 judicial exception by claiming every substantial practical application of the invention disclosed by the Applicant. The

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claim would impermissibly cover every substantial practical application of, and thereby preempt all use of, an abstract idea, natural phenomenon, or law of nature. Accordingly, one may not patent every “substantial practical application” of an idea, law of nature or natural phenomena because such a patent would “in practical effect be a patent on the [idea, law of nature or natural phenomena] itself.” *Gottschalk v. Benson*, 409 U.S. 63, 71-72, 175 USPQ 673, 676 (1972).

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

14. **Claims 1-5 and 9-14** are rejected under 35 U.S.C. 102(e) as being anticipated by **US 2003/0233602 (hereinafter “Lindquist”)**.

As per **Claim 1**, Lindquist discloses:

- a method of defining recovery and transactional behavior for software (*see Paragraph [0021], “According to the present invention, the services grid can organize, route, recover and switch comparable computing services automatically.”*).

As per **Claim 2**, the rejection of **Claim 1** is incorporated; and Lindquist further discloses:

- a step of defining recovery and transactional behavior for nested, composite Web services using a service composition tool (*see Paragraph [0021], "According to the present invention, the services grid can organize, route, recover and switch comparable computing services automatically. Specifically, the services grid of the present invention can be used to group distributed computing services such as Web services and eUtilities of identical or comparable abstraction, though each service may differ in terms of implementation, provider, host and network domain."*).

As per **Claim 3**, the rejection of **Claim 1** is incorporated; and Lindquist further discloses:

- a step of declaring the activation and automation of transactional behavior through the association of an attribute to a composite model/program of a set of aggregated and connected software services to indicate activation and automation of transactional behavior for a composite definition at runtime (*see Paragraph [0022], "Importantly, fail-over logic can be included in the service grid in order not only to perform reliability assurance according to guaranteed service levels specified in an established SLA, but also to perform failure-detection and self-recovery for failing comparable service instances."*).

As per **Claim 4**, the rejection of **Claim 1** is incorporated; and Lindquist further discloses:

- a step of declaring transactional behavior through the association of an attribute to a service interface, or a contained service in the context of a containing composite service, to indicate whether the service interface should be re-invoked upon automatic recovery although it was already invoked successfully in the context of a composite service prior to a system crash or

failure (see Paragraph [0022], “Importantly, fail-over logic can be included in the service grid in order not only to perform reliability assurance according to guaranteed service levels specified in an established SLA, but also to perform failure-detection and self-recovery for failing comparable service instances.”; Paragraph [0027], “Notably, once a service instance 150 has been bound to a transaction, the state of health of the service instance 150 can be monitored by the grid routing component 140 and fail-over can be performed when necessary through exception handling and recovery included as part of the operations 120.”).

As per **Claim 5**, the rejection of **Claim 1** is incorporated; and Lindquist further discloses:

- a step for configurable routing of the flow of execution upon rollback/compensation event through adding a visual port, to a visual presentation of a software service interface as a semantic-based means for routing the flow of execution and activation of another software service, upon a rollback/compensation event within a composite model of a set of connected software services (see Figure 3B; Paragraph [0034], “If, however, in block 410 it is determined that the quality of the session lags guaranteed levels of quality for the session, in block 430 the internal tables of the service grid can be consulted to identify a next best service instance which is configured to satisfy the guaranteed levels of quality. If, in decision block 440 the identified service instance is not available, the process can repeat in block 430. Otherwise, in block 450 the next best service instance can be bound to satisfy the service request and in block 460, the service request can be forwarded to the newly bound service instance.”).

As per **Claim 9**, Lindquist discloses:

- an extensible system of automatic transactional execution for nested, composite software services (*see Paragraph [0021], “According to the present invention, the services grid can organize, route, recover and switch comparable computing services automatically.”*).

As per **Claim 10**, the rejection of **Claim 9** is incorporated; and Lindquist further discloses:

- a method of defining built-in transactional behavior for modifications to data from an inter-process shared memory structures within the transactional execution of composite software services (*see Paragraph [0022], “Importantly, fail-over logic can be included in the service grid in order not only to perform reliability assurance according to guaranteed service levels specified in an established SLA, but also to perform failure-detection and self-recovery for failing comparable service instances.”*).

As per **Claim 11**, the rejection of **Claim 9** is incorporated; and Lindquist further discloses:

- a method of providing transactional behavior for any plug-in implementation (*see Paragraph [0022], “Importantly, fail-over logic can be included in the service grid in order not only to perform reliability assurance according to guaranteed service levels specified in an established SLA, but also to perform failure-detection and self-recovery for failing comparable service instances.”*).

As per **Claim 12**, the rejection of **Claim 9** is incorporated; and Lindquist further discloses:

- automated implementation for a semantic based transactional behavior defined within a composite service definition (*see Paragraph [0022], "Importantly, fail-over logic can be included in the service grid in order not only to perform reliability assurance according to guaranteed service levels specified in an established SLA, but also to perform failure-detection and self-recovery for failing comparable service instances."*).

As per **Claim 13**, the rejection of **Claim 9** is incorporated; and Lindquist further discloses:

- a method of defining a context mechanism based on a directed execution graph and an invocation map associated to each composite instance (*see Paragraph [0025], "The service grid, itself, can be optionally implemented according to OGSA and can include one or more internal tables 130 populated with data derived from a private registry such as a private UDDI. The tables 130 can maintain a handles, search keys and corresponding pointers to reference information for each service instance 150 included in the service grid."*).

As per **Claim 14**, the rejection of **Claim 13** is incorporated; and Lindquist further discloses:

- a method of step-by-step invocation and automated application of a declared transactional behavior of contained services within a composite service based on its directed execution graph and invocation map (*see Figure 3B; Paragraph [0034], "If, however, in block*

410 it is determined that the quality of the session lags guaranteed levels of quality for the session, in block 430 the internal tables of the service grid can be consulted to identify a next best service instance which is configured to satisfy the guaranteed levels of quality. If, in decision block 440 the identified service instance is not available, the process can repeat in block 430. Otherwise, in block 450 the next best service instance can be bound to satisfy the service request and in block 460, the service request can be forwarded to the newly bound service instance.”).

15. **Claims 7 and 8** are rejected under 35 U.S.C. 102(e) as being anticipated by US **2002/0194244 (hereinafter “Raventos”)**.

As per **Claim 7**, Raventos discloses:

- an extensible system through a programmatic interface for the plug-in implementation of non-composite software services with built-in commit/rollback transactional behavior (*see Paragraph [0066], “In some instances, it may be desirable to postpone performance of certain tasks by resources until the prepare stage, which is essentially the point in the transaction protocol where the Resource Manager signs its contract with the Transaction Manager in the sense that it will be able to either commit or rollback all of its tasks.”*).

As per **Claim 8**, the rejection of **Claim 7** is incorporated; and Raventos further discloses:

- a set of generic built-in database access services (e.g. update, query, delete, and add) with automated transactional behavior (*see Paragraph [0033], “For example, plugins may be*

implemented to cover a wide range of IDC resources (e.g., IDC software applications and/or devices), such as web servers, ftp servers, DNS servers, LDAP services, usage measurement services, QoS services, management services, and database services, which may be non-transactional resources.”).

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. **Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Lindquist** in view of **Raventos**.

As per **Claim 6**, the rejection of **Claim 5** is incorporated; however, Lindquist does not disclose:

- declaring whether a built-in rollback behavior of a service embedded within a composite service should be overwritten or extended through a rollback/compensation port.

Raventos discloses:

- declaring whether a built-in rollback behavior of a service embedded within a composite service should be overwritten or extended through a rollback/compensation port (*see Paragraph [0034], “Once the services are enlisted to be part of an activation transaction, the*

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Activation Resource Manager takes care of interfacing the bus' Transaction Manager in the sequence of events defined by a transaction protocol (e.g., the XA protocol), and to appropriately invoke the proper plugins to execute the service, validate it, undo it, or check for complete rollback of the service.” and “Thus, for instance, the order of operation according to a transactional protocol (e.g., the XA protocol) may be effectively modified for a resource depending on the operational mode selected for the Activation Resource Manager.”).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Raventos into the teaching of Lindquist to include declaring whether a built-in rollback behavior of a service embedded within a composite service should be overwritten or extended through a rollback/compensation port. The modification would be obvious because one of ordinary skill in the art would be motivated to recover from a system crash or failure by rolling back any active transactions.

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

19. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Qing Chen whose telephone number is 571-270-1071. The Examiner can normally be reached on Monday through Thursday from 7:30 AM to 4:00 PM. The Examiner can also be reached on alternate Fridays.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Wei Zhen, can be reached on 571-272-3708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/QC/
July 31, 2008

/Wei Y Zhen/

Supervisory Patent Examiner, Art Unit 2191